



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,093	04/11/2005	Yoshiyuki Imatomi	59559.00019	2608

32294 7590 12/14/2006

SQUIRE, SANDERS & DEMPSEY L.L.P.
14TH FLOOR
8000 TOWERS CRESCENT
TYSONS CORNER, VA 22182

EXAMINER

MACKEY, JAMES P

ART UNIT PAPER NUMBER

1722

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/531,093

Applicant(s)

IMATOMI, YOSHIYUKI

Examiner

James Mackey

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 10-13 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/11/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Art Unit: 1722

1. Applicant's election of Group I, mold apparatus claims 1-9 and 14, in the reply filed on 09 November 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 10-13 and 15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 09 November 2006.
3. Applicant should update the Title to reflect the elected invention, e.g. apparatus only.
4. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 2, 3 and 6-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is indefinite as to the relationship between the "sliding surface" and the first and second molds as recited in independent claim 1.

Art Unit: 1722

Claim 3 is indefinite as to the relationship between each of the “base portion” and the “insert” and the first and second molds as recited in independent claim 1.

In claim 6, “high wear resistance” is an indefinite relative term. The term “high” in claim 6 is a relative term which renders the claim indefinite. The term “high” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Note that when a word of degree is used in a claim, the specification must provide some standard for measuring that degree, since without proper definitional guidelines, a skilled artisan could not determine the metes and bounds of the claimed invention, *Seattle Box Co., Inc. v. Industrial Crating & Packing, Inc.*, 221 USPQ 568, 574.

In claims 7 and 8, “contents” is indefinite as to exactly what is intended to be claimed; it appears that the relative quantities of the first and second materials is intended to be claimed, but “contents” merely refers to the identities of the materials.

Claim 9 is indefinite as to the relationship between each of the “first sliding surface” and the “second sliding surface” and the first and second molds as recited in independent claim 1.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 3 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sakaida et al. (U.S. Patent 4,783,041; Figure 2).

Sakaida et al. clearly teach a molding machine including a mold apparatus comprising a first mold 12 and a second mold 14, wherein the second mold has a sintered portion 22 on a contact surface between a base 20 and an insert 34.

9. Claims 1, 2 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nakagawa et al. (U.S. Patent 4,531,705; Figures 12 and 19).

Nakagawa et al. clearly teach a molding machine including a mold apparatus comprising a first mold 10a and a second mold 10b, wherein each of the first and second molds has a sintered portion 2 formed on a sliding surface where an outer surface of the male mold 10a slides against an inner surface of the female mold 10b.

10. Claims 1, 4-7 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Davis et al. (U.S. Patent 3,286,312; Figures 1 and 5; col. 3, line 35 through col. 4, line 26).

Davis et al. clearly teach a molding machine including a mold apparatus comprising a first mold 11 and a second mold 11a, each formed from a sintered graphite substrate 17 (col. 4, lines 3-7), a sintered silicon carbide intermediate layer 16 on the mold substrate (col. 3, lines 42-45), and a sintered silicon oxide surface layer on the intermediate layer (col. 4, lines 7-15).

11. Claims 1, 2, 9 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Winget (U.S. Patent 6,164,953; Figure 4).

Winget clearly teaches a molding machine including a mold apparatus (Figure 4) comprising a first mold 11' and a second mold 13'', the first mold including sintered portions 28'', 30'' on a sliding surface such that opposed first and second sliding surfaces are formed from materials having different characteristics.

Art Unit: 1722

12. Claims 1, 2, 9 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Japanese Patent Document 11-240023 (Figures 1-2; paragraph 17).

Japan '023 clearly teaches a molding machine including a mold apparatus comprising a first mold 2 and a second mold 3, wherein the second mold has a sintered portion 7, 11 at a sliding surface such that opposed first and second sliding surfaces are formed from materials having different characteristics.

13. Claims 1, 2, 9 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Japanese Patent Document 2002-192565 (Figures 1-2).

Japan '565 clearly teaches a molding machine including a mold apparatus comprising a first mold 1 and a second mold 2, wherein the first mold has a sintered portion 11, 11a, 11b on a sliding surface such that opposed first and second sliding surfaces are formed from materials having different characteristics.

14. Claims 1, 4-8 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Japanese Patent Document 2001-277252 (Figures 2-5 and 7-9; paragraphs 16-20, 31-35, 50-54, 65-66 and 73-77).

Japan '252 clearly teaches a molding machine including a mold apparatus comprising first and second molds 4 each having a sintered portion comprising a base layer 410 formed from a first material, an outermost layer 45 formed from a second material, and an intermediate layer formed from a material containing the first and second material components, the intermediate layer having a graded junction structure wherein the ratio of components varies within the intermediate layer such that the component in common with the base layer increases toward the

Art Unit: 1722

base layer side of the intermediate layer and the component in common with the outermost layer increases toward the outermost layer side, to firmly join the outermost layer to the base layer.

15. Claims 1, 2, 9 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Japanese Patent Document 6-106259 (Figures 2 and 5).

Japan '259 clearly teaches a molding machine including a mold apparatus comprising a first mold 21 and a second mold 26 (Figure 5), and further comprising a sintered guide column 4, 30 slidably engaged with bushes for guiding the relative motion of the first and second molds, the column and the bushes being first and second sliding surfaces formed from materials of different characteristics.

16. Claims 1, 3-6 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Japanese Patent Document 63-251214 (Figures 1-2).

Japan '214 clearly teaches a molding machine including a mold apparatus comprising a first mold 1 and a second mold 2, wherein the second mold includes a sintered portion 10 between a base portion 2 and an insert 5, and wherein the sintered portion comprises a base layer 10a formed from a first material and an outermost layer 10b formed from a second material having wear resistance.

17. Claims 1, 4-6 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Japanese Patent Document 63-264317 (Figure 1).

Japan '317 clearly teaches an injection molding machine including a mold apparatus inherently comprising first and second molds, wherein at least one of the molds comprises a sintered portion having a base layer 2 formed from a first material and an outermost layer 1 formed from a second material having wear resistance.

Art Unit: 1722

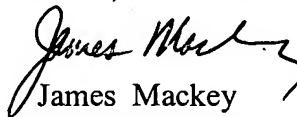
18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Japanese Patent Document 3-272815 discloses a molding punch/die set wherein both the interior surface of the die (Figure 2) and the shaping end of the sliding punch (Figure 3) may be formed from sintered material 4.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Mackey whose telephone number is 571-272-1135. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


James Mackey
Primary Examiner
Art Unit 1722

12/8/06

jpm
December 8, 2006